

Application Serial No. 10/797,425
Response dated July 29, 2005
Reply to Office Action dated June 30, 2005

REMARKS

The Examiner has indicated that claims 1-53 are pending in the application and are subject to restriction and/or election requirement. Specifically, we understand that the Examiner has grouped the claims between Group I, claims 30-47, Group II, claims 1-27, and Group III, claims 28-29 and 48-53. Group I is directed to a product, Group II is directed to a method, and Group III is directed to an apparatus. New claims 54 and 55 have been added by this amendment, and should be grouped with Group II. Applicants elect Group II, claims 1-27, 54 and 55.

In addition, the Examiner has indicated that claims in any one of the above three groups are further directed to the distinct species of Species 1, where the SiGe layer comprise a graded layer, and Species 2, where the SiGe layer comprises a plurality of sublayers. Applicants elect Species 1, where the SiGe layer comprises a graded layer. Dependent claim 4, as originally filed, is directed to Species 1 and 2 in the alternative. Claim 4 is amended herein to limit claim 4 to Species 2 and new claim 54 is added directed to Species 1, as originally set forth in claim 4. Dependent claim 5 has been amended to depend from new claim 54. Claim 11 was also directed to alternatives, which have now been split between claim 11 and new claim 55. As amended, claims 1-3, 11-27 and 55 are believed to be generic with respect to Species 1 and 2, and thus read on Species 1. New claim 54 and original claims 5 and 8 also read on Species 1, and examination of those claims is therefore requested. Dependent claims 4, 6, 7, 9 and 10 read on Species 2, and examination of those claims is requested in the event that a generic claim is found allowable.

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Further, the Examiner requires election between a single gas or a single set of mixed gases for exposing the substrate when forming the silicon seed layer from the mutually distinctive gases of (A) a silicon-containing gas alone; (B) a silicon-containing gas plus further-involved inert gas; (C) a silicon-containing gas plus further-involved H₂ gas; (D) alternately-exposed-to silicon-containing gas and H₂ gas; and (E) alternately-exposed-to silicon-containing gas, H₂ gas and Ge-containing gas. Applicants traverse this Species Restriction. It is not clear how the various gases or mixtures of gases are mutually distinctive, as those gases are described in the Office Action. When considered in conjunction with the specification and claims, the difficulty in electing a species in accordance with this Restriction is more apparent. For example, considering claims 19-21, claim 19 specifies "a Si-containing gas containing at least one of . . .", with a listing of several silicon-containing gases. The term "containing" is a transitional phrase that is open to the inclusion of non-recited elements. Thus, the claim does not recite a silicon-containing gas alone, as set forth in Species A, but rather, recites a silicon-containing gas while leaving open the possibility for the inclusion of other gases. That is further apparent by dependent claims 20 and 21, which depend from claim 19, and further include an inert gas or an H₂ gas, respectively. Thus, if Applicants were to designate claim 19 as reading on Species A, that would be inconsistent with claims 20 and 21. It is also not clear how a silicon-containing gas plus further-involved H₂ gas is mutually distinctive of an alternate exposure to a silicon-containing gas and H₂ gas. In any event, elected claims 1-18, 22, 25-27, and 54-55 are generic with respect to the type of gas used to form the seed layer, and thus read on each of Species A-E.

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Because Applicants are required to make an election, we hereby elect Species A, which is directed to a silicon-containing gas alone used to form the seed layer. With respect to identifying those claims which read on the species elected, Applicants are having difficulty complying with the requirement in light of Applicants' assertion that the Species Restriction does not make sense. While claim 19 might appear to read on Species A, the word "alone" in the Examiner's definition of Species A contradicts claim 19 which clearly is open to inclusion of gases other than the silicon-containing gas. Claim 20 appears to read on Species B; claim 21 appears to read on Species C; claim 23 appears to read on Species D; and claim 24 appears to read on Species E. Applicants request that the Examiner reconsider the Species Restriction as to the gas used for forming the silicon seed layer, and to withdraw the Species Restriction of Species A-E and to examine all claims in Group II that read on Species 1, namely claims 1-3, 5, 8-27 and 54-55. Examination of claims 4 and 6-7 is further requested upon allowability of a generic claim.

The Group I claims are canceled without prejudice to their refiling in a divisional application. Claims 28 and 29 are indicated as withdrawn, since these claims are grouped in the non-elected Group III. However, reconsideration is requested, as these claims are linked to the method of claims 1 and 15. Examination of claims 28 and 29 together with the method claims is respectfully requested. The remainder of the Group III claims, specifically claims 48-53 are also canceled without prejudice to their refiling in a divisional application.

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Applicants are of the opinion that no additional fee is due as a result of this amendment. If any charges or credits are necessary to complete this communication, please apply them to Deposit Account No. 23-3000.

Respectfully submitted,

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THANK YOU

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